What is claimed is:

1. A physical layer unit for a wireless Local Area Network (LAN) system, the physical layer unit comprising:

an Analog-to-Digital (A/D) converter that receives and converts an OFDM analog signal or a DSSS/CCK analog signal processed by an RF module into a digital signal; and

a receiving processor that:

interpolates and demodulates the converted digital signal, outputs the interpolated and demodulated signal as a DSSS/CCK demodulation signal; and

directly demodulates the converted digital signal without interpolation, and outputs the demodulated signal as an OFDM demodulation signal.

2. The physical layer unit of claim 1, further comprising;

a Physical Layer Convergence Protocol (PLCP) processor which receives a DSSS/CCK demodulation signal, an OFDM demodulation signal, and classifies the received signals according to an OFDM standard or a DSSS/CCK standard, relays the classified signals to respective corresponding upper layers using a PLCP, and performs general control operations; and

a transmitting processor which receives a packet signal output from the PLCP processor, performs OFDM modulation or DSSS/CCK modulation of the packet signal, and outputs the modulated signal as an OFDM analog signal or a DSSS/CCK analog signal to the RF module,

wherein the transmitting processor comprises:

a DSSS/CCK modulator which receives and modulates a packet signal of a DSSS/CCK standard, and outputs the modulated signal as a DSSS/CCK modulation signal;

an OFDM modulator which receives and modulates a packet signal of an OFDM standard, and outputs the modulated signal as an OFDM modulation signal;

a multiplexing (MUX) unit which outputs one of the DSSS/CCK modulation signal and the OFDM modulation signal according to a processing sequence; and

A D/A converter which converts a signal output from the MUX unit into an analog signal and outputs the converted signal as the OFDM analog signal or the DSSS/CCK analog signal.

3. The physical layer unit of claim 1, wherein the receiving processor comprises:

the A/D converter that receives and converts the analog signal processed by the RF module into the digital signal;

an interpolation unit that interpolates and outputs the converted digital signal;

a DSSS/CCK demodulator which demodulates the interpolated signal and outputs the demodulated signal as the DSSS/CCK demodulation signal; and

an OFDM demodulator which directly demodulates the converted digital signal and outputs the demodulated signal as the OFDM demodulation signal.

4. The physical layer unit of claim 1, wherein the interpolation is performed by synchronizing the converted digital signal to a sampling clock corresponding to a transmission rate of the DSSS/CCK standard and approximating the synchronized digital signal using a third-order or a higher order function.

5. A physical layer unit for a wireless LAN system, the physical layer unit comprising:

an Analog-to-Digital (A/D) converter that receives and converts an OFDM analog signal or a DSSS/CCK analog signal processed by an RF module into a digital signal; and

a receiving processor that demodulates the converted digital signal as an OFDM demodulation signal and outputs the OFDM demodulation signal according to a predetermined DSSS/CCK control in response to signal determination flag information in a first logic state; and

that demodulates and outputs the converted digital signal as a DSSS/CCK demodulation signal according to a predetermined DSSS/CCK control in response to signal determination flag information in a second logic state.

6. The physical layer unit of claim 5, further comprising:

a Physical Layer Convergence Protocol (PLCP) processor which receives a DSSS/CCK demodulation signal, a OFDM demodulation signal, and classifies the received signals according to an OFDM standard or a DSSS/CCK standard, relays the classified signals to respective corresponding upper layers using a PLCP, and performs general control operations; and

a transmitting processor which receives a packet signal output from the PLCP processor, performs OFDM modulation or DSSS/CCK modulation of the packet signal, and outputs the modulated signal as an OFDM analog signal or a DSSS/CCK analog signal;

wherein the transmitting processor comprises:

a DSSS/CCK modulator which receives and modulates a packet signal of a DSSS/CCK standard, and outputs the modulated signal as a DSSS/CCK modulation signal;

an OFDM modulator which receives and modulates a packet signal of an OFDM standard, and outputs the modulated signal as an OFDM modulation signal;

a MUX unit which outputs one of the DSSS/CCK modulation signal and the OFDM modulation signal according to a processing sequence; and

a D/A converter which converts a signal output from the MUX unit into an analog signal, and outputs the converted analog signal as the OFDM analog signal or the DSSS/CCK analog signal.

7. The physical layer unit of claim 5, wherein the receiving processor comprises:

the A/D converter that receives the analog signal processed by the RF module and converts the received analog signal into the digital signal;

a DSSS/CCK controller which performs the predetermined DSSS/CCK control corresponding to the signal determination flag information and controls an output of the converted digital signal;

an OFDM demodulator which demodulates the converted digital signal, sets the signal determination flag information to a first logic state or a second logic state, and outputs the demodulated signal as the OFDM demodulation signal in response to the signal determination flag information set to the first logic state; and

a DSSS/CCK demodulator which outputs the demodulated signal as the DSSS/CCK demodulation signal in response to the signal determination flag information set to the second logic state.

8. The physical layer unit of claim 5, wherein the predetermined DSSS/CCK control is performed to allow the DSSS/CCK demodulator to conduct a preamble processing of the received signal within a predetermined second time period after the signal determination flag information is set to the second logic state within a predetermined first time period for preamble processing and detection of a converted digital signal corresponding to the OFDM standard.

9. The physical layer unit of claim 5, wherein the signal determination flag information is maintained in the first logic state if the converted digital signal subjected to the preamble processing corresponds to an OFDM standard, and is set to the second logic state if the converted digital signal subjected to the preamble processing does not correspond to the OFDM standard.

10. The physical layer unit of claim 8, wherein the predetermined second time period is 40 μs .

11. The physical layer unit of claim 10, wherein the predetermined first time period is 16 μs .

12. A wireless LAN system comprising:

an RF module that receives an OFDM modulation signal or a DSSS/CCK modulation signal as an analog signal and outputs an OFDM analog signal or a DSSS/CCK analog signal ;

a physical layer unit that receives and converts an analog signal output from the RF module into a digital signal, interpolates and demodulates the digital signal, outputs the interpolated and demodulated signal as a DSSS/CCK demodulation signal, and directly demodulates and outputs the digital signal as an OFDM demodulation signal.

13. The wireless LAN system of claim 12, further comprising

a MAC layer which receives and processes information from other interfaced external layers according to a MAC protocol, outputs the packet signal, receives and link-distributes the DSSS/CCK demodulation signal or the OFDM demodulation signal, and outputs the link-distributed signal to the other interfaced external layers; and

wherein the physical layer unit comprises:

a Physical Layer Convergence Protocol (PLCP) processor that receives the packet signal and the demodulation signal, respectively, classifies the received signals according to an OFDM standard or a DSSS/CCK standard, relays the classified signals to respective corresponding upper layers using a PLCP, and performs general control operations;

a transmitting processor which receives the packet signal output from the PLCP processor, performs OFDM modulation or DSSS/CCK modulation of the packet signal, and outputs the modulated signal as an OFDM analog signal or a DSSS/CCK analog signal; and

a receiving processor which receives and converts the analog signal output from the RF module into the digital signal, interpolates and demodulates the converted digital signal, outputs the interpolated and demodulated signal as the DSSS/CCK demodulation signal to the PLCP processor, and directly demodulates and outputs the converted digital signal as the OFDM demodulation signal to the PLCP processor.

14. The LAN system of claim 13, wherein the transmitting processor comprises:

a DSSS/CCK modulator which receives and modulates the packet signal of the DSSS/CCK standard and outputs the modulated signal as the DSSS/CCK modulation signal;

an OFDM modulator which receives and modulates the packet signal of the OFDM standard and outputs the modulated signal as the OFDM modulation signal;

a MUX unit that outputs one of the DSSS/CCK modulation signal or the OFDM modulation signal according to a processing sequence; and

a D/A converter that converts a signal output from the MUX unit into an analog signal and outputs the converted analog signal as the OFDM analog signal or the DSSS/CCK analog signal.

15. The wireless LAN system of claim 12, wherein the physical layer unit comprises:

an Analog-to-Digital (A/D) converter that receives and converts an analog signal output from the RF module into a digital signal;

an interpolation unit that interpolates the digital signal;

a DSS/CCK demodulator which demodulates the interpolated signal and outputs the demodulated signal as the DSSS/CCK demodulation signal; and

an OFDM demodulator which directly demodulates the converted digital signal and outputs the demodulated signal as the OFDM demodulation signal.

16. The wireless LAN system of claim 12, wherein the interpolation is performed by synchronizing the converted digital signal to a sampling clock corresponding to a transmission rate of the DSSS/CCK standard and approximating the synchronized digital signal using a third-order or a higher-order function.

17. A wireless LAN system comprising:

an RF module that receives an OFDM modulation signal or a DSSS/CCK modulation signal as an analog signal and outputs an OFDM analog signal or a DSSS/CCK analog signal;

a physical layer unit that

receives and converts an analog signal output from the RF module into a digital signal,

outputs the converted digital signal as an OFDM demodulation signal, according to a predetermined DSSS/CCK control, in response to signal determination flag information in a first logic state, the signal determination flag information being set by processing the converted digital signal, and

demodulates and outputs the converted digital signal as a DSSS/CCK demodulation signal, according to the predetermined DSSS/CCK control, in response to signal determination flag information in a second logic state; and

a MAC layer unit that link-distributes the DSSS/CCK demodulation signal or the OFDM demodulation signal to other interfaced external layers.

18. The wireless LAN system of claim 17, wherein the physical layer unit comprises:

a receiving processor that receives an analog signal output from the RF module, converts the analog signal into a digital signal, and demodulates and outputs the digital signal as a DSSS/CCK demodulation signal, according to a predetermined DSSS/CCK control corresponding to signal determination flag information, and demodulates and outputs the converted digital signal as an OFDM demodulation signal in response to signal determination flag information with a first logic state created by processing the converted digital signal.

19. The wireless LAN system of claim 17 wherein the physical layer unit comprises:

a Physical Layer Convergence Protocol (PLCP) processor which receives the demodulation signal, classifies the received signal according to an OFDM standard or a DSSS/CCK standard, relays the classified signal to respective corresponding upper layers using a PLCP, and performs general control operations; and

a transmitting processor which receives a packet signal output from the PLCP processor, performs OFDM demodulation or DSSS/CCK modulation of the packet signal, and outputs the modulated signal as an OFDM analog signal or a DSSS/CCK analog signal; and wherein the transmitting processor includes:

a DSSS/CCK modulator which receives and modulates the packet signal of the DSSS/CCK standard and outputs the modulated signal as a DSSS/CCK modulation signal;

an OFDM modulator which receives and modulates the packet signal of the OFDM standard and outputs the modulated signal as an OFDM modulation signal;

a MUX unit that outputs one of the DSSS/CCK modulation signal or the OFDM demodulation signal according to a processing sequence; and

a D/A converter that converts a signal output from the MUX unit into an analog signal and outputs the analog signal as an OFDM analog signal or an DSSS/CCK analog signal.

20. The wireless LAN system of claim 18, wherein the receiving processor comprises:

an A/D converter that receives an analog signal output from the RF module and converts it into a digital signal;

an OFDM demodulator which demodulates the converted digital signal, sets the signal determination flag information, and outputs the demodulated signal as the OFDM demodulation signal in response to the signal determination flag information in the first logic state;

a DSSS/CCK controller that performs the predetermined DSSS/CCK control corresponding to the state of the signal determination flag information;

a DSSS/CCK demodulator which demodulates and outputs a signal output from the DSSS/CCK controller as a DSSS/CCK demodulation signal.

21. The wireless LAN system of claim 17, wherein the signal determination flag information is maintained in a first logic state if the converted digital signal subjected to the preamble processing corresponds to an OFDM standard, and is set to a second logic state within a predetermined first time period if the converted digital signal subjected to the preamble processing does not correspond to the OFDM standard.

22. The wireless LAN system of claim 21, wherein the predetermined DSSS/CCK control is performed to allow the DSSS/CCK demodulator to perform a

second preamble processing of the received signal within a predetermined second time period after the signal determination flag information is set to the second logic state.

23. The wireless LAN system of claim 22, wherein the predetermined second time period is 40 μs.

24. The wireless LAN system of claim 22, wherein the predetermined first time period is 16 μs.

25. An wireless LAN method, which is implemented on a wireless LAN system, comprising:

receiving a radio wave and extracting and outputting an OFDM analog signal or a DSSS/CCK analog signal;

converting the analog signal into a digital signal;

interpolating the converted digital signal;

demodulating the interpolated signal as a DSSS/CCK demodulation signal;

directly demodulating and outputting the converted digital signal as an OFDM demodulation signal; and

link-distributing one of the DSSS/CCK demodulation signal and the OFDM demodulation signal to other interfaced external layers.

26. The wireless LAN method of claim 25, wherein the interpolation is performed by synchronizing the converted digital signal to a sampling clock corresponding to a transmission rate of the DSSS/CCK standard and approximating the synchronized digital signal using a third-order or a higher-order function.

27. A wireless LAN method, which is implemented on a wireless LAN system, comprising:

receiving a radio wave, and extracting and outputting an OFDM analog signal and a DSSS/CCK analog signal;

converting the analog signal into a digital signal;

processing the converted digital signal and setting the state of signal determination flag information;

outputting the converted digital signal as an OFDM demodulation signal in response to signal determination flag information in a first logic state;

performing a predetermined DSSS/CCK control corresponding to the signal determination flag information;

demodulating and outputting the converted digital signal as an DSSS/CCK demodulation signal, according to the predetermined DSSS/CCK control, in response to signal determination flag information in a second logic state; and

link-distributing the DSSS/CCK demodulation signal or the OFDM demodulation signalto other interfaced external layers.

28. The wireless LAN method of claim 27, wherein the signal determination flag information is maintained in the first logic state if the converted digital signal subjected to a first preamble processing corresponds to an OFDM standard, and the signal determination flag information is set to the second logic state, if the converted digital signal subjected to the first preamble processing does not correspond to the OFDM standard.

29. The wireless LAN method of claim 28, wherein the predetermined control is performed to allow the DSSS/CCK demodulator to perform a preamble processing of the received signal within a predetermined second time period after the signal determination flag information is set to the second logic state.

30. The wireless LAN method of claim 29, wherein the predetermined second time period is 40 μs .

31. The wireless LAN method of claim 29, wherein the predetermined first time period is 16 μs .